



DIVISION OF INDUSTRY SERVICES
PO BOX 7162
MADISON WI 53707-7162
Contact Through Relay
<http://dsps.wi.gov/programs/industry-services>
www.wisconsin.gov

Scott Walker, Governor
Dave Ross, Secretary

March 17, 2016

CUST ID No. 1344395

ATTN: Plumbing Inspector

MICHAEL HANSON
STERLING WATER INC
2465 TRAILWOOD LANE
ROTHSCHILD WI 54474

MUNICIPAL CLERK
VILLAGE OF RUDOLPH
7040 BLONIEN AVE
RUDOLPH WI 54475-0007

CONDITIONAL APPROVAL
PLAN APPROVAL EXPIRES: 03/17/2018

SITE:

Rudolph Elementary School
6950 Knowledge Ave
Village of Rudolph, 54475
Wood County

FOR:

Facility: 758728 RUDOLPH ELEMENTARY SCHOOL
6950 KNOWLEDGE AVE
RUDOLPH 54475
Plan Type: Addition-Alteration; 1 Interior Fixture(s)

Object Type: Commercial Water Treatment Device Regulated Object ID No.: 1590218

The submittal described above has been reviewed for conformance with applicable Wisconsin Administrative Codes and Wisconsin Statutes. The submittal has been **CONDITIONALLY APPROVED**. The owner, as defined in chapter 101.01(10), Wisconsin Statutes, is responsible for compliance with all code requirements.

No person may engage in or work at plumbing in the state unless licensed to do so by the Department per s.145.06, stats.

The following conditions shall be met during construction or installation and prior to occupancy or use:

- The Stemmer fixed rate chemical injection pump (85MHP17) has undergone sufficient testing to document the device's ability to properly inject a chemical into a water supply system as specified in this approval letter:

<http://dsps.wi.gov/sb/docs/sb-ppalopp/20120155.pdf>

- For buildings not served by a municipal water supply, Department of Natural Resources (DNR) written approval may be required prior to installation of this product to inject a chemical into a water supply system. For more information contact the DNR Private Water Systems Section, P.O. Box 7921, Madison, WI 53707, telephone (608) 266-3415.
- The sodium carbonate (aka soda ash) injected into this water supply system shall conform to NSF Standard 60 and shall not exceed its listed maximum use concentration. The maximum use concentration of sodium carbonate, manufactured by Tata Chemicals, is 100 mg/l:

<http://info.nsf.org/Certified/PwsChemicals/Listings.asp?CompanyName=Tata+Chemicals&TradeName=&ChemicalName=Sodium+Carbonate&ProductFunction=Corrosion+Control&PlantState=&PlantCountry=&PlantRegion=>

Cross connection control is optional.

- Only a locking bypass shall be installed on the chemical injection system.
- All water distribution piping shall be marked as required by SPS Table 382.40-1a.
- The finished installation must undergo a final inspection prior to the treated water being used for consumptive purposes. The Plumbing Consultant having jurisdiction in this area is Bruce Meiners. Mr. Meiners can be reached via the following:

Phone: 608-399-4156

E-mail: bruce.meiners@wi.gov

If the treated water is used for consumptive purposes prior to passing the final inspection, then this approval may be rendered null and void and the devices ordered removed. The Plumbing Consultant shall provide a written indication of the results of the final inspection to the system owner.

When the final inspection has been passed, the Plumbing Consultant will notify the Wisconsin Department of Natural Resources (WDNR) Field Staff having authority over the well. The WDNR will then monitor the quality of the treated water to its satisfaction. Monitoring advice, which the WDNR is free to accept or reject, is provided elsewhere in this letter. The WDNR Field Staff having authority over this well is Adam Scheunemann. Mr. Scheunemann can be contacted via the following:

Phone: 715-421-7807

E-mail: adam.scheunemann@wisconsin.gov

- The suggested monitoring interval for this installation is monthly until a stable passivating layer has formed on the internal pipe surfaces which can be inferred from copper and lead concentrations dropping off to below detectable limits. The following tests should be performed:
 1. dissolved lead;
 2. dissolved copper;
 3. pH
 4. alkalinity

The water quality samples should be collected at a time of day when the chemical injection system is as close to peak demand as possible. Untreated and treated water samples should be collected together in sets, the untreated samples taken upstream of all water treatment devices and the treated samples from the most remote outlet. The sampling should be "first draw" as is normally required under the EPA's Lead and Copper Rule.

Note that this treatment approach leaves the water service piping (i.e. 1.5 inch type L copper), and water distribution piping prior to the point of chemical injection, unprotected and therefore prone to corrosion on an ongoing basis. The byproducts of this corrosion may appear in the treated water samples. The most practical solution to this problem would be to replace the water service/water supply piping with an inert piping material (e.g. CPVC, PEX, PVC, see Tables SPS 384.30-7).

- Any wall hydrant that is not served by the chemical treatment system shall have one, or more, of the following:
 - a. the handles of the hydrant shall be removed;
 - b. the hydrant shall be capped and sealed using solder; or
 - c. signage shall be posted immediately above the hydrant indicating the water is unfit for human consumption

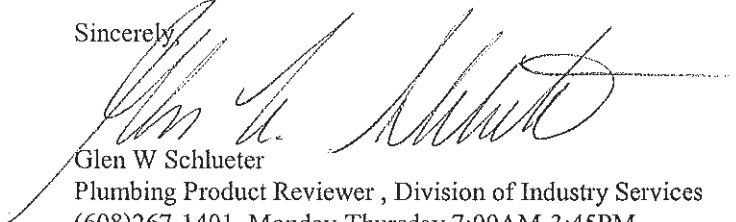
Also, all hose connections shall be protected with hose connection vacuum breakers that conform to ASSE standards 1011 or 1052.

A full size copy of the approved plans, specifications and this letter shall be on-site during construction and open to inspection by authorized representatives of the Department, which may include local inspectors. If plan index sheets were submitted in lieu of additional full plan sets, a copy of this approval letter and index sheet shall be attached to plans that correspond with the copy on file with the Department. If these plans were submitted in an electronic form, the designer is responsible to download, print, and bind the full size set of plans along with our approval letter. A department electronic stamp and signature shall be on the plans which are used at the job site for construction. All permits required by the state or the local municipality shall be obtained prior to commencement of construction/installation/operation.

In granting this approval the Division of Industry Services reserves the right to require changes or additions should conditions arise making them necessary for code compliance. As per state stats 101.12(2), nothing in this review shall relieve the designer of the responsibility for designing a safe building, structure, or component.

Inquiries concerning this correspondence may be made to me at the telephone number listed below, or at the address on this letterhead.

Sincerely,



Glen W Schlueter
Plumbing Product Reviewer , Division of Industry Services
(608)267-1401, Monday-Thursday 7:00AM-3:45PM
Friday 7:00AM-12:00PM
glen.schlueter@wisconsin.gov

Fee Required \$ 160.00

This Amount Will Be Invoiced.
When You Receive That Invoice,
Please Include a Copy With Your
Payment Submittal.
WiSMART code: 7657

cc: Bruce Emerson Meiners, Plumbing Consultant, (608) 399-4156 , Mon - Fri 8:00 am - 4:30 pm
Edwin Allison, Wisconsin Rapids Schools

Note: Effective January 1, 2012, all codes under the jurisdiction of the Division of Industry Services (formerly Safety & Buildings) will be modified. Code references with prefixes starting with "Comm" have been replaced with "SPS" to recognize the relocation of the Division of Industry Services from the former Department of Commerce to the Department of Safety & Professional Services. Additionally, all IS (formerly S&B) codes have been renumbered and addressed in a "300" series. For future reference, the Wisconsin Commercial Building Code will be addressed by SPS Chapters 360-366.



Fixture Count Usage Estimation Fixture Count Data*

Project Name: Rudolph Elementary School
Design by: Michael Hanson

Fixture		Qty	Count, Ea.	Total
Lavatory,	3/8" conn.	30	2	60
	1/2" conn.	0	4	0
Tub/Shower		0	8	0
Shower Only		0	4	0
Watercloset,	Tank Type	15	3	45
	Flush Valve	0	35	0
Urinal		7	12	84
Kitchen Sink,	1/2" conn.	0	3	0
	3/4" conn.	0	7	0
Wash Sink		0	4	0
Drinking Fountain		17	2	34
Dishwasher,	1/2" conn.	0	4	0
	3/4" conn.	0	10	0
	commercial	0	15	0
Washing Machine,	1/2" conn.	0	5	0
	3/4" conn.	0	12	0
	1" conn.	0	25	0
	1 1/4" conn.	0	35	0
	1 1/2" conn.	0	50	0
Other		0	2	0
Other		0	4	0

Fixture Count Total = 223.0

Type of Facility: School
Design Pressure: 50.0 psi
Hot and Cold Water Treated.

Based on Fixture Count, Estimated Peak Flow = 79 gpm

* Data based on: *Sizing Water Service Lines and Meters*, AWWA Manual M22, Copyright 1975 by American Water Works Association, Denver, CO. (www.awwa.org)

Water Calc. Worksheet

Name of Project _____

INFORMATION REQUIRED TO SIZE WATER SERVICE AND WATER DISTRIBUTION:

1-	Demand of building in water supply fixture units (WSFU);	(WSFU)	<u>223</u>
1.a.	Demand of building in WSFU converted to Gallons Per Minute: (Table SPS 382.40-3)	(GPM)	<u>79</u>
2-	Elevation difference from main or external pressure tank to building control valve; (feet)		<u>6'</u>
3-	Size of water meter (when required) 5/8" <u>3/4"</u> 1" <u>other</u>		<u>NA</u>
4-	Developed length from main or external pressure tank to building control valve;	(feet)	<u>NA</u>
5-	Low pressure at main in street or external pressure tank.	(psi)	<u>50</u>

CALCULATE WATER SERVICE PRESSURE LOSS

(unnecessary for internal pressure tanks)

6-	Low pressure at main in street or external pressure tank. (value of # 5 above)		<u>50</u>
7-	Determine pressure loss due to friction in <u>1-1/2"</u> inch diameter water service. Water service piping material is <u>COPPER</u> Pressure loss per 100 ft. = <u>20</u> X <u>0.2</u> (decimal equivalent of service length, i.e. 65 ft = 0.65)	Subtract value of "7"	<u>4</u>
		Subtotal	<u>46</u>
8-	Determine pressure loss or gain due to elevation, (multiply the value of # 2 above by .434)	Subtract value of "8"	<u>2.6</u>
9-	Available pressure after the bldg. control valve.	Subtotal	<u>43.4</u>

CALCULATE THE PRESSURE AVAILABLE FOR UNIFORM LOSS (VALUE OF "A")

B.	Available pressure after the bldg. control valve. (from "9" above)	Value of "B"	<u>43.4</u>
C.	Pressure loss of water meter (when meter is required)	Subtract value of "C"	<u>0.0</u>
		Subtotal	<u>43.4</u>
D.	Pressure at controlling fixture*. (Controlling fixture is: _____). (*Controlling fixture is the fixture with the most demanding pressure to operate properly which includes the following when determining fixture performance; loss due to instantaneous water heaters, water treatment devices, and backflow preventers which serve the controlling fixture.)	Subtract value of "D"	<u>7</u>
		Subtotal	<u>36.4</u>
E.	Difference in elevation between building control valve and the <u>controlling fixture in feet</u> ; _____ X .434 psi/ft.	Subtract value of "E"	<u>0</u>
		Subtotal	<u>36.4</u>

Water Calc Worksheet

Name of Project _____

- F. Pressure loss due to water treatment devices and backflow preventers which serve the controlling fixture. (Water softeners, filters, etc.)

(Pressure loss due to; Chemical Feed system).

F1. WSFU Downstream of Water Treatment Device; _____ 0

F2. Convert wsfu to GPM using **Table 382.40-3**: _____ 0orF3. Convert wsfu to GPM using **Table 382.40-3e*** _____
(For individual dwellings only)F4. Refer to manuf. graph to obtain pressure loss: _____
(If no water treatment device enter "0")**Subtract value of F4** _____ 0

Subtotal _____ 43.4

- G. Pressure loss through tankless water heaters, combination boiler / hot water heaters, heat exchangers which serve the controlling fixture;

Hot water WSFU's; _____ convert to; GPM = _____ (Table 382.40-3)
Refer to manufacturer's pressure loss graph to determine loss at the required GPM;

_____ pressure loss.

Subtract value of "G" _____ 0

Subtotal _____ 43.4

- H. Developed length from building control valve to controlling fixture in feet _____ 35 X 1.5

Divide by value "H" _____ 52.5

Subtotal _____ 0.827

Multiply by: _____ 100

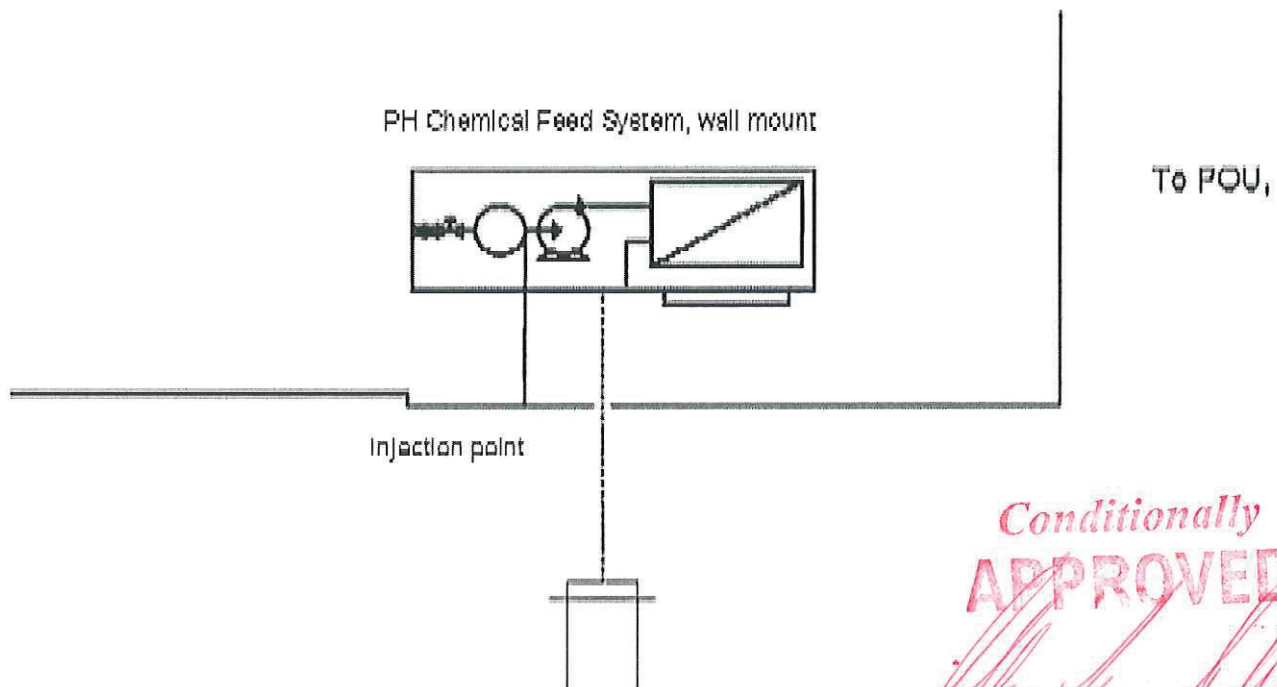
- A. Pressure available for uniform loss

"A" = _____ 82.7Water distribution piping is: copper

*Note: The "A" value obtained by using Table 382.40-3e can only be used for an individual dwelling when sizing the water treatment device (water softeners, etc) and no hose bibbs, hydrants, or high flow fixtures are being served by the water treatment device.

Note: High flow fixtures are defined as fixtures that exceed a flow rate of 4 gpm @ 80 psi, and water velocity not exceeding 8 ft. per second.

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TATA CHEMICALS (SODA ASH) PARTNERS

Safety Data Sheet – Sodium Carbonate, Anhydrous

Date Reviewed: February 2015

Supersedes: January 2015

This document has been prepared to meet the requirements of the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200; the Canada's Workplace Hazards Materials Information System (WHMIS) and, the EC Directive, 2001/58/EC.

1. Product and Company Identification

Product Name	Sodium Carbonate, Anhydrous
Alternate Product Name(s)	Soda Ash, Disodium Carbonate Also: Dense Soda Ash, Soda Ash Light, Synthetic Light Soda Ash, Soda Ash Liquid, Natural Light Soda Ash, Natural Light HA Soda Ash
Chemical Formula	Na ₂ CO ₃
Product Use	Glass manufacture, detergent manufacture, sodium chemicals and carbonate chemicals manufacture, pulp and paper, brine treatment, water hardness removal, pH adjustment in water or wastewater, flue gas desulphurization, coal treatment, ion exchange resin regeneration.
This chemical is certified to ANSI/NSF Standard 60, Drinking Water Chemicals – Health Effects (as packaged in the original, unopened container). Concentration not to exceed 100 ppm when used for corrosion control or scale control pH adjustment.	
Manufacturer	Tata Chemicals (Soda Ash) Partners 100 Enterprise Drive Rockaway, NJ 07866
Emergency Telephone Numbers	(800) 424-9300 (CHEMTREC – US) (613) 996-6666 (CANUTEC – Canada) (307) 872- 3431 (Plant – Green River, WY)

2. Hazards Identification

Emergency Overview: White, odorless, granular solid. Product is non-combustible. Reacts with acids to release carbon dioxide gas and heat. May irritate skin and eyes. Dusts may irritate respiratory tract. Not expected to be toxic to the environment, nor to aquatic organisms. Avoid simultaneous exposure to soda ash and lime dust. In the presence of moisture (i.e. perspiration) the two materials combine to form caustic soda (NaOH), which may cause burns.

Hazard Classification:

Class	Category	Hazard Statement
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Other Information: Soda ash is produced in three principal grades: Dense, natural light and synthetic light soda ash. When these products are mixed in water they may be known as liquid soda ash. These grades differ only in physical characteristics such as bulk density and size and shape of particles, which influence flow characteristics and angle of repose. Other physical properties, as well as chemical as chemical properties of solutions, are common to each grade of soda ash.

Certified to ANSI / NSF 60

Concentration not to exceed 100 ppm when used for corrosion control or scale control pH adjustment.



The information given corresponds to the current state of our knowledge and experience of the product, and is not exhaustive. This applies to product, which conforms to the specification, unless otherwise stated. In this case of combinations and mixtures one must make sure that no new dangers can arise. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and protection of human welfare and the environment.

This Material Safety Data Sheet is offered for your information, consideration and investigation as required by Federal Hazardous Products Act and related legislation. The information is believed to be accurate but General Chemical Industrial Products provides no warranties, either expressed or implied.

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